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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/030,151 | 04/15/2002 | Bernard Klein | 02021 | 6370 |

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| EXAMINER | |
|---|---|
| EWOLDT, GERALD R | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1644 | |

DATE MAILED: 09/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/030,151 | KLEIN ET AL. | |
| | Examiner | Art Unit | |
| | G. R. Ewoldt, Ph.D. | 1644 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *10 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *14-16,18-20 and 22-26* is/are pending in the application.

4a) Of the above claim(s) *23 and 24* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-16,18-20,22,25 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

**DETAILED ACTION**

1. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed 8/10/06 in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's amendment and remarks filed 8/10/06 have been entered.

2. Claims 23 and 24 stand withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claims 14-16, 18-20, 22, and newly added Claims 25 and 26 are being acted upon.

3. In view of Applicant's remarks and showing of a definition of the term "mobilization" as used in U.S. Patent No. 6,875,753 the previous rejection under the second paragraph of 35 U.S.C. 112 has been withdrawn.

4. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

A) The citizenship of Inventor Tarte has not been identified.

Applicant indicates that a substitute declaration is being prepared.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 14, 15, 19, 20, 22, and newly added Claims 25 and 26 stand/are rejected under 35 U.S.C. 112, first paragraph, as

containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

As set forth previously, There is insufficient written description to show that Applicant was in possession of a "an interleukin that blocks differentiation towards the macrophage pathway" as recited in Claim 14. While the specification discloses that said interleukins include IL-4 and IL-13, the specification provides no further guidance. Thus, the skilled artisan is left with only a functional description for the identification of the interleukin of the claims. Said functional description alone, absent any hint of the structural features linking the interleukins, comprises an inadequate written description. Likewise the "cell growth factor" of Claim 19 is inadequately described. In this instance no additional description is disclosed for this potentially unlimited genus of factors. Thus, again, no common structural feature has been identified and the written description is considered to be inadequate.

Applicant's arguments, filed 8/10/06, have been fully considered but they are not persuasive. Applicant again argues that the specification is enabling for the terms and additionally, that the best mode for carrying out the invention is not in question.

Applicant is again advised that the rejection is for lack of adequate written description for the genus of "interleukins that block differentiation towards the macrophage pathway" of Claims 14 and 20 and the genus of "cell growth factors" of Claim 19.

Applicant argues that examples of cell growth factors, e.g., G-CSF and GM-CSF, have been provided.

Applicant is advised that the two closely related factors, G-CSF and GM-CSF, cannot be considered representative of the entire genus of the growth factors that might be encompassed by the claims. Applicant is further advised that a review of the Revised Interim Written Description Guidelines Training Materials as set forth on the USPTO website might be helpful.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 14-16, 19, 20, 22, and newly added Claims 25 and 26 stand/are rejected under 35 U.S.C. 103(a) as being unpatentable over Tarte et al. (1998, IDS) in view of U.S. Patent No. 5,405,772.

As set forth previously, Tarte et al. teaches a method of obtaining dendritic cells (DCs) comprising cultivation of G-CSF mobilized CD34+ mononuclear cells, (i.e., lymphocytes and hematopoietic stem cells obtained from a multiple myeloma patient who would have had some chemotherapy) in serum-free medium, GM-CSF and IL-4 or IL-13, for 5 days followed by 2 days in TNFα culture (see particularly page 1853, columns 2, *Results*).

The reference teaching differs from the claimed invention only in that it does not teach the cultivation of said cells in human albumin.

The '772 patent teaches that serum albumin, particularly human albumin, is a routine component of serum-free cell culture medium (see particularly column 10, line 66-column 11, line 8), particularly, hematopoietic cell culture medium (see particularly column 8, lines 17-20).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to perform the method of obtaining DC of Tarte et al., including human albumin in the cell culture, as taught by the '772 patent. One of ordinary skill in the art at the time of the invention would have been motivated to include human albumin because it was a routine component of hematopoietic cell culture medium, as taught by the '772 patent. Note that the limitations of Claims 20-22 comprise only the routine optimization of the amount of cytokines and albumin used in the culture method and would have fallen well within the purview of the skilled artisan at the time of the invention. Said additional limitations do not render the claimed method patentably distinct.

Applicant's arguments, filed 8/10/06, have been fully considered but they are not persuasive. Applicant states that no admission of obviousness has been made.

Applicant's statement is acknowledged.

9. Claim 18 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tarte et al. (1998, IDS) in view of U.S. Patent No. 5,405,772, as applied to Claims 14-16, 19, 20, 22, and newly added Claims 25 and 26 above, and in further view of Kalinski et al. (1998, IDS).

As set forth previously, Tarte et al. and the '772 patent have been discussed, above. The teachings of the combined references differ from the claimed invention only in that they do not teach the additional use of prostaglandin E2 (PGE2) in the cell culture.

Kalinski et al. teaches that PGE2 synergizes with TNFα in DC cell culture in inducing DC maturation (see particularly page 2805, column 2, *Results*).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to perform the method of obtaining DC of Tarte et al., including human albumin in the cell culture, as taught by the '772 patent, as well as PGE2, as taught by Kalinski et al. One of ordinary skill in the art at the time of the invention would have been motivated to include PGE2 in the method given the teachings of Kalinski et al. that PGE2 synergizes with TNFα in DC cell culture in inducing DC maturation, thus, providing an improved method for obtaining DC from culture.

Applicant's arguments, filed 8/10/06, have been fully considered but they are not persuasive. Applicant again argues that there is no indication that the PGE2 of Kalinski et al. would have the same action in the serum-free medium of the method of the instant claims as it did in the medium with fetal calf serum used in the reference.

As set forth previously, there is no teaching in the instant specification or of record that PGE2 interacts with fetal calf serum and that fetal calf serum is required for the synergy between PGE2 and TNFα as taught by Kalinski et al. Thus, there is no reason not to expect the combination of PGE2 and TNFα to synergize under serum-free conditions.

10. The following are new grounds for rejection.

11. Claim 18 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Tarte et al. (1998, IDS) in view of U.S. Patent No. 5,405,772, as applied to Claims 14-16, 19, 20, 22, and newly added Claims 25 and 26 above, and in further view of Jonuleit et al. (1997).

Tarte et al. and the '772 patent have been discussed, above. The teachings of the combined references differ from the claimed invention only in that they do not teach the additional use of PGE2 in serum-free cell culture.

Jonuleit et al. teaches that the addition of PGE2 to TNFα in DC cell culture results in enhanced yield, maturation, migratory and immunostimulatory capacity of DCs generated (see particularly Abstract).

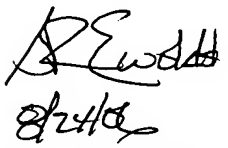
It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to perform

the method of obtaining DC of Tarte et al., including human albumin in the cell culture, as taught by the '772 patent, as well as PGE2, as taught by Jonuleit et al. One of ordinary skill in the art at the time of the invention would have been motivated to include PGE2 in the method given the teachings of Jonuleit et al. that the addition of PGE2 to TNFα in DC cell culture results in enhanced yield, maturation, migratory and immunostimulatory capacity of DCs generated.

12. No claim is allowed.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Gerald Ewoldt whose telephone number is (571) 272-0843. The examiner can normally be reached Monday through Thursday from 7:30 am to 5:30 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (571) 272-0841.

**Please Note**: Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197.



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